State Revolving Fund Loan Programs
Drinking Water, Wastewater, Nonpoint Source

ENVIRONMENTAL ASSESSMENT
AND
FINDING OF NO SIGNIFICANT IMPACT

CITY OF INDIANAPOLIS
Belmont/Southport WWTP Interplant Connection Construction
DPW Project CS-38-002C; SRF PER 5A
STATE REVOLVING FUND PROJECT # TO BE DETERMINED AT LOAN CLOSING

DATE: December 7, 2007

DEADLINE FOR SUBMITTAL OF COMMENTS: January 7, 2007

I. INTRODUCTION

The above entity has applied to the State Revolving Fund Loan Program (SRF) for a loan to finance all or part of the wastewater project described in the accompanying Environmental Assessment (EA). As part of facilities planning requirements, an environmental review has been completed which addresses the project's impacts on the natural and human environment. This review is summarized in the attached EA.

II. PRELIMINARY FINDING OF NO SIGNIFICANT IMPACT (FNSI)

The SRF has evaluated all pertinent environmental information regarding the proposed project and determined that an Environmental Impact Statement is not necessary. Subject to responses received during the 30-day public comment period, and pursuant to Indiana Code 4-4-11, it is our preliminary finding that the construction and operation of the proposed facilities will result in no significant adverse environmental impact. In the absence of significant comments, the attached EA shall serve as the final environmental document.

III. COMMENTS

All interested parties may comment upon the EA/FNSI. Comments must be received at the address below by the deadline date above. Significant comments may prompt a reevaluation of the preliminary FNSI; if appropriate, a new FNSI will be issued for another 30-day public comment period. A final decision to proceed, or not to proceed, with the proposed project shall be effected by finalizing, or not finalizing, the FNSI as appropriate. Comments regarding this document should be sent within 30 days to:

Max Henschen
Senior Environmental Manager
State Revolving Fund – IGCN 1275
100 N. Senate Ave.
Indianapolis, IN 46204
317-232-8623

ENVIRONMENTAL ASSESSMENT

I. PROJECT IDENTIFICATION

Project Name and Address:	**Belmont/Southport WWTP Interplant Connection Construction** **DWP Project** CS-38-002C City of Indianapolis Dept. of Public Works 2460 City-County Building 200 East Washington Street Indianapolis, Indiana 46204
SRF Project Number:	to be determined at loan closing
Authorized Representative:	Kumar Menon, Director Department of Public Works

II. PROJECT LOCATION

The city's Preliminary Engineering Report 5A proposes construction of a 6.5 mile long, 12-foot diameter, underground interceptor sewer: the Interplant Connection. This interceptor, which has a conveyance capacity in excess of 320 million gallons per day (mgd), will connect the Belmont and Southport advanced wastewater treatment plants (WWTPs).

The Interplant Connection project will be in the Maywood USGS Quadrangle, T15N, R3E, Sections 23, 26, 27 and 34 as well as T14N, R3E, Sections 2, 3, 8, 9 and 10. See figures 1a and 1b.

III. PROJECT NEED AND PURPOSE

The Interplant Connection Facilities Plan was completed in May 2004 and evaluated five routes for the Interplant Connection. On November 29, 2005, the State Revolving Fund Loan Program (SRF) approved funding for the design of the Interplant Connection, 30 days after a Categorical Exclusion was distributed on October 29, 2005 for public comment. This Environmental Assessment presents the results of that design activity and the details of the proposed project's construction.

This project is part of the city's 20-year $1.8 billion Clean Streams – Healthy Neighborhoods Program. The Program also includes eliminating septic tanks, upgrading sanitary sewers, and improving flood control and drainage. This project will assist the city in achieving the goals of the Combined Sewer Overflow (CSO) Long Term Control Plan (LTCP).

The Indianapolis Department of Public Works provides wastewater conveyance and treatment services to Marion County and portions of surrounding counties. The Indianapolis collection system contains a large number of combined sewers and CSOs. Wastewater is treated at both the Belmont and Southport WWTPs; each WWTP discharges into the West Fork White River.

Most of the combined sewer interceptors feed the Belmont WWTP, so the Belmont WWTP receives significant flow surges during wet weather. In contrast, the Southport WWTP receives flows primarily from sanitary sewers. Unlike the Belmont WWTP, the Southport WWTP has capacity to treat additional wet weather flows. Therefore, a portion of the flow from the Belmont service area is currently conveyed to the Southport WWTP via the Southwest Diversion Interceptor; this helps to ensure that the combined capacity of the two facilities is efficiently used during wet weather to minimize frequency and volume of CSOs. That interceptor also balances dry weather flows between the two treatment plants.

However, the Southwest Diversion Interceptor does not have the capacity to convey the large volumes that will be captured in the future as the city improves the CSOs and collection system. And studies have shown that the Belmont WWTP alone can not reliably handle the captured flows from the combined system, even if the plant's hydraulic capacity is doubled.

To address these issues of combined sewage flow conveyance and treatment, the city submitted its CSO LTCP in September, 2006 to the United States Environmental Protection Agency and the Indiana Department of Environmental Management for review and comment/approval. The CSO LTCP proposed a Fall Creek Tunnel for capturing CSOs discharging to Fall Creek. That tunnel would connect with a White River Tunnel which would capture the CSOs discharging into White River. The downstream termination of this storage and conveyance tunnel system, known as the Deep Tunnel, would be east of the Belmont facility near the existing Southwest Diversion Structure and CSO 117. The selected plan recommended in the CSO LTCP would route flow from CSO 117 and from the future Deep Tunnel to the Interplant Connection interceptor, where flows would be stored and conveyed to the treatment plants.

The proposed Interplant Connection interceptor will accommodate connection of the Lick Creek Interceptor and the future Bluff Road/Thompson Road Relief Sewer, which are proposed in the Marion County Sanitary Sewer Master Plan. It will also accommodate connection of CSO 117 and the Deep Tunnel. The Interplant Connection will allow a greater flow rate to be directed to the Southport treatment plant and help the city capture and treat billions of gallons of sewage annually that now overflow into the White River near Southern Avenue and other streams with little or no treatment.

IV. PROJECT DESCRIPTION

The Interplant Connection project will commence at the Southport WWTP located at Tibbs Avenue and Southport Road, where a Tunnel Boring Machine will be launched and proceed east and northeast to Banta Road near its intersection with Concord Street. The project will then continue east under Banta Road via tunneling within the Right-of-Way to Bluff Road, where the route turns north and proceeds along the west Right-of-Way of the Indiana Railroad track corridor. The route proceeds north via tunneling along the west side of the Indiana Railroad to Hanna Avenue, where a diversion structure on the existing Lick Creek interceptor will be constructed. North of Hanna Avenue, the project will continue via tunneling, crossing from the west to and along the east side of the Indiana Railroad corridor to just south of Southern Avenue, where the line will go under the Indiana Railroad and terminate at the upper

end, which is the general location for the pump-out structure for the city's future deep storage tunnel system.

The project will install approximately 34,500-feet of 12-foot diameter pipe. The city plans to install the pipe by tunneling, starting at the southern end. However, there is a chance that approximately 5,000 feet of pipe in the northern end would be installed by open cut; if so, that pipe would be 10 feet in diameter. Reinforced concrete segmental pipe is proposed for tunneling and reinforced concrete pipe (RCP) is proposed for the potentially open cut portion of the project. Nine access and diversion structures will be constructed for future operations and maintenance.

In addition, the project includes a 75 MGD pumping station at the Southport WWTP to convey flows to the Southport headworks facilities, until the Southport headworks facilities are expanded in the future. Ultimately, the Interplant Connection would receive and convey flows to the Southport WWTP from CSO 117, the Lick Creek interceptor, the Thompson Road Relief sewer and the Fall Creek/White River Deep Tunnel system.

With the Interplant Connection, the city will have more flexibility to deliver a higher volume of flow to Southport WWTP, especially during wet weather when the Belmont WWTP is hydraulically overloaded. After the city finishes construction of the Fall Creek/White River Deep Tunnel in 2025, the Interplant Connection will convey up to 250 MGD from the deep tunnel to the Southport WWTP following wet weather.

The city intends to award construction contracts in the summer of 2008. Construction of the project must proceed in accordance with the schedule set forth in the CSO LTCP; the initiation of operation date agreed upon by USEPA and the city in a Consent Decree is December 31, 2012.

V. Estimated Project Costs and Funding

The total project cost is estimated to be $161,170,000 including an estimated $5.1 million in land acquisition costs which are ineligible. Indianapolis will borrow a portion of the project cost from the SRF for a 20-year term at an interest rate to be determined at loan closing. The city will continue to adjust its rates and charges to pay for the projects and debt service.

VI. Evaluation of Alternatives

The city completed an advanced facilities plan in February, 2007 to investigate pipe diameters, construction materials and methods, geotechnical and survey data, etc., and evaluate two alignment routes for the Interplant Connection.

A. No Action: The No Action alternative would not provide for the capture and conveyance of CSOs from existing CSO 117 and the Lick Creek interceptor and from the future Fall Creek/White River Deep Tunnel project. The No Action alternative is not consistent with the city's CSO LTCP and the Consent Decree between the city and the US EPA. Therefore, this option was rejected.

B. Installation of Interplant Connection: The city evaluated two routes (see Figure 1b) based on cost, public impacts, operations, scheduling, construction methods and other technical

factors (solid conditions, groundwater etc.). **Alternative route 2 is the selected route** and will have the least impact on property owners, as well as enabling the city to meet state and federal deadlines to complete the project.

Alternative route 1 parallels the city's existing Southwest Diversion Interceptor and twin 14-inch sludge force mains over a significant length of the route.

The alignment of the northern-most segment (approximately 1,300 feet) of the selected route is identical to that of route 1. Alternative route 2 follows Banta Road and the Indiana Railroad for the remainder of the route. Open-cut excavation was considered for the majority of alternative route 1 and for the northernmost portion of alternative route No. 2. Tunneling was considered for a limited portion of alternative route 1 and for the majority of alternative route 2.

Alternative route 2 was the selected route because it will cost less and require the city to acquire fewer easements. Route 2 also had fewer concerns related to system operation, construction, hydraulic capacity, soils and groundwater. Most of the project will be constructed with tunneling machines, which will minimize negative environmental impacts along the route.

By tunneling, the city will minimize dewatering needs during construction and avoid gas lines, electrical lines, existing sewers and other utilities in the area. Road and lane closures and traffic impacts will be minimal. Had the total project been built using traditional "open cut" construction, the city would have required a 100-foot construction corridor along the 6.5-mile route.

Construction of the project must proceed in accordance with the schedule set forth in the agreed upon CSO LTCP and with a mandatory construction completion and placement in operation date of December 31, 2012.

VII. Environmental Impacts of the Feasible Alternatives

A. Direct Impacts of Construction and Operation

The proposed project would require stream crossings, if the northern portion is open cut. There will be temporary impacts to air quality in the open cut portion. The selected route and method of installation avoids many environmental impacts and minimizes others.

B. Induced Impacts

The city's Preliminary Engineering Report (PER) states: *"The City through the authority of its Council, planning commission, or other means will ensure the future development, as well as future collection system or treatment works projects connecting to SRF funded facilities, will not adversely impact wetlands, archaeological/historical/ structural resources, or other sensitive environmental resources. The City will require new development and treatment works projects to be constructed within the guidelines of the U.S. Fish and Wildlife Service, IDNR, IDEM and other environmental review authorities."*

C. Comments from Environmental Review Authorities

The State Historic Preservation Officer, in correspondence dated March 20, 2007 stated:

Pursuant to IC 13-18-21 and 327 IAC 14 and Section 106 of the National Historic Preservation Act (16 U.S.C § 470f) and 36 C.F.R. Part 800, the Indiana State Historic Preservation Officer ("Indiana SHPO") is conducting an analysis of the materials dated and received by the Indiana SHPO on March 8, 2007, for the [Belmont-Southport Interconnection project using State Revolving Loan Funds (DPW #CS-38-002B; DHPA #1784)] *in Indianapolis, Marion County, Indiana.*

In terms of archaeological resources, we concur with the conclusions and recommendations of the archaeological report that site 12Ma933 does not appear eligible for inclusion in the National Register of Historic Places. Therefore, no further archaeological investigations are necessary for alternate 2 provided that all project activities remain in areas disturbed by previous construction or in areas subjected to the archaeological survey. It is our understanding that alternate 2 is the preferred alternate; if this changes, please consult with our office for additional review of the proposed project. Please be advised that the Tilton-Alcorn Banta Cemetery is within the proposed project area for alternate 2 and should be avoided by all project activities. Provisions of relevant state statutes regarding cemeteries (including IC 23-14-44 and IC 14-21-1) must be adhered to.

If any archaeological artifacts, features, or human remains are uncovered during construction, state law (Indiana Code 14-21-1-27 & 29) requires that the discovery must be reported to the Department of Natural Resources within two (2) business days.

In regard to buildings and structures, we have identified the following properties within the probable area of potential effects, and we believe that they may meet the criteria of eligibility for inclusion in the National Register:

- *Fred Aufderheide Farm and Nursery, 3912 South Division Street (Site #097-392-85208, per Decatur, Perry, and Franklin Townships, Marion County Interim Report);*
- *Hohn House and Nursery, 1124 West Sumner Avenue (Site #097-392-85211);*
- *Gas Station, 3600 South Harding Street (Site #097-392-85215)*
- *Stout Generating Station Guard House (Site #097-392-85216)*
- *House, 2420 Banta Road (#097-392-85329).*

Based on the information provided to our office, we believe that there will not be any alterations to the characteristics of the above identified historic properties qualifying them for inclusion in or eligibility for the National Register (see 36 C.F.R. § 800.16[i]).

The Indiana Department of Natural Resources Environmental Unit, in correspondence dated October 13, 2006, stated:

Regulatory Assessments: This proposal may require the formal approval of our agency pursuant to the Flood Control Act (IC 14-28-1) for any proposal to construct, excavate, or fill in or on the floodway of a stream or other flowing

waterbody which has a drainage area greater than one square mile. However, portions of the project may qualify for utility exemption under Administrative Rule 312 IAC 10-5-4 (see enclosure) or outfall exemption under Administrative Rule 312 10-5-8 (see enclosure). Please include a copy of this letter with the permit application (if required).

Natural Heritage Database: The Natural Heritage Program's data has been checked. The state endangered Peregrine Falcon (Falco peregrinus) nests at the power plant along the White River near Alternative 1.

Fish & Wildlife Comments: The project will require excavation and installation of a 144-inch diameter sewer tunnel. In addition to the presence of a state endangered species, Alternative 1 also has the potential to disrupt and fragment wooded riparian habitat in the floodway of the White River and comes in close proximity to existing excavated ponds. These areas are of value to fish, wildlife, and botanical resources in an area that is surrounded by development and industrial pressure on these resources. Alternative 2 follows a route that would be much less disruptive to valuable fish, wildlife, and botanical resources. There will be mitigation requirements for impacts to urban forested floodway and other habitats. The mitigation may be significantly higher for Alternative 1.

The U.S. Fish and Wildlife Service, in correspondence dated August 4, 2006, stated:
The proposed project would construct a 144 inch sewer tunnel connecting the Belmont and Southport WWTPs, as a part of the City's Combined Sewer Overflow Long-term Control Plan. Two route alternatives are proposed for the project, both of which share a short reach of the Illinois Central Railroad at the north end (Belmont WWTP) and a short segment including Banta Road, Tibbs Street and a farm field at the south end (Southport WWTP). Alternative 1 (6.4 miles) would use a combination of street corridors and easement across open land, whereas Alternative 2 (6.6 miles) would follow the Illinois Central Railroad and Banta Street corridors for the entire distance between the 2 shared segments.

We did not inspect the project routes, however based on aerial photographs and map resources we can estimate the following potential impacts on fish and wildlife resources from the proposed project. These impacts are limited primarily to streams and riparian zones.

1. Both alternatives would cross Pleasant Run and Little Buck Creek at the same location (existing railroad bridge and Tibbs Street, respectively).

2. Both alternatives would cross Lick Creek, but at different location. Alternative one would require a new crossing south of Hanna Avenue in a gravel mine area upstream from Lick Creek's mouth, where the stream contains a narrow forested riparian border. Alternative 2 would cross at the existing railroad crossing, further upstream where the stream is smaller, also with a narrow forested riparian zone.

3. Alternative 1 would pass adjacent to or through an undisturbed forested riparian zone along the bank of the West Fork White River for approximately 1600 feet, on the north side of the Capitol City Conservation Club lake. It appears from the maps provided with your letter that this route segment may require extensive

tree removal along most of the segment, which would be the most significant impact of the project. Alternative 2 would mostly avoid impacts in this area by following the railroad corridor.

4. Both alternatives would cross one or more intermittent streams with very narrow riparian tree borders.

Stream crossings can adversely impact streams by removing riparian vegetation, destabilizing streams banks, increasing sediment load from construction runoff and altering instream habitat. Additionally, utility pipelines that are buried too shallow sometimes become exposed, requiring additional disturbance for repair. Loss of riparian forest reduces canopy shading and organic input for the stream, increases stream bank erosion potential and eliminates important habitat for migratory birds and other wildlife.

Recommendations to Minimize Impacts: Reduction of CSO problems will significantly improve the quality of the White River, therefore the FWS supports the proposed project. We strongly recommend Alternative 2 because its stream impacts would occur at existing infrastructure crossings, and also because of concerns about the White River riparian forest. If Alternative 1 is selected it should be modified to avoid substantial forest clearing along the White River. The following general recommendations apply to all stream crossings.

> *1. Maintain a vegetated buffer between construction and streams, except at stream crossings. The buffer should be a least 25 feet wide, but preferably up to 100 feet wide if possible. Where maintenance of an adequate buffer is not possible because of other physical constraints, locate the sewer line to minimize clearing of woody riparian vegetation and destabilization of streams banks.*
>
> *2. For stream crossings, attach the pipeline to existing bridges or use directional drilling wherever possible, rather than using an excavated crossing.*
>
> *3. Minimize erosion and cover or contain soil piles to prevent runoff to streams during construction. Stabilize disturbed stream banks as quickly as possible after construction is completed. Revegetate with native plant species in areas that are currently dominated by natural vegetation.*
>
> *4. When excavated crossings on perennial streams are unavoidable, avoid mussel beds and areas of high-quality aquatic habitats, such as gravel/rock riffles.*
>
> *5. For excavated crossings of Pleasant Run, Lick Creek and Little Buck Creek, avoid disturbance within the stream channel during the fish spawning season (April 1 – June 30).*

Endangered Species: The proposed project is within the range of the federally endangered Indiana Bat (Myotis sodalis) *and federally threatened bald eagle* (Haliaeetus leucocephalus). *There is an eagle nest along the White River*

approximately ½ mile from Alternative 1, however it will not be affected by the proposed project.

There is moderate quality forested summer habitat for Indiana bats present in the project vicinity, along the White River and upstream along tributary streams to some extent where the riparian forest is mostly contiguous with that of the river. The rest of the study area is too fragmented and urbanized to support this species. There are multiple summer records of Indiana bats in southwestern Marion County, including a nursery roost along the White River downstream from the Southport WWTP. There are no current records of Indiana bats within the project study area but to our knowledge the area has not been surveyed. The project will not eliminate enough habitat to affect this species, but to avoid incidental take from removal of an occupied roost tree, we recommend that tree-clearing be avoided near the White River (both alternatives) and along Lick Creek (Alternative 1 only) during the period April 15 – September 15. If this measure is implemented the proposed project is not likely to adversely affect these listed species.

The Natural Resources Conservation Service, in correspondence dated August 11, 2006, stated that the proposed project *will not cause a conversion of prime farmland.*

VIII. MITIGATION MEASURES

If dewatering is necessary, dewatering flows will be directed to silt ponds. The city's contractors will implement standard construction practices to avoid or minimize erosion or other impacts.

IX. PUBLIC PARTICIPATION

A properly noticed public hearing was held on May 15, 2007 at 1:00 PM in Room 260 in the City-County Building to discuss the project. No comments on this project were voiced at the public hearing. The city did not receive written comments in the ten days following the hearing.

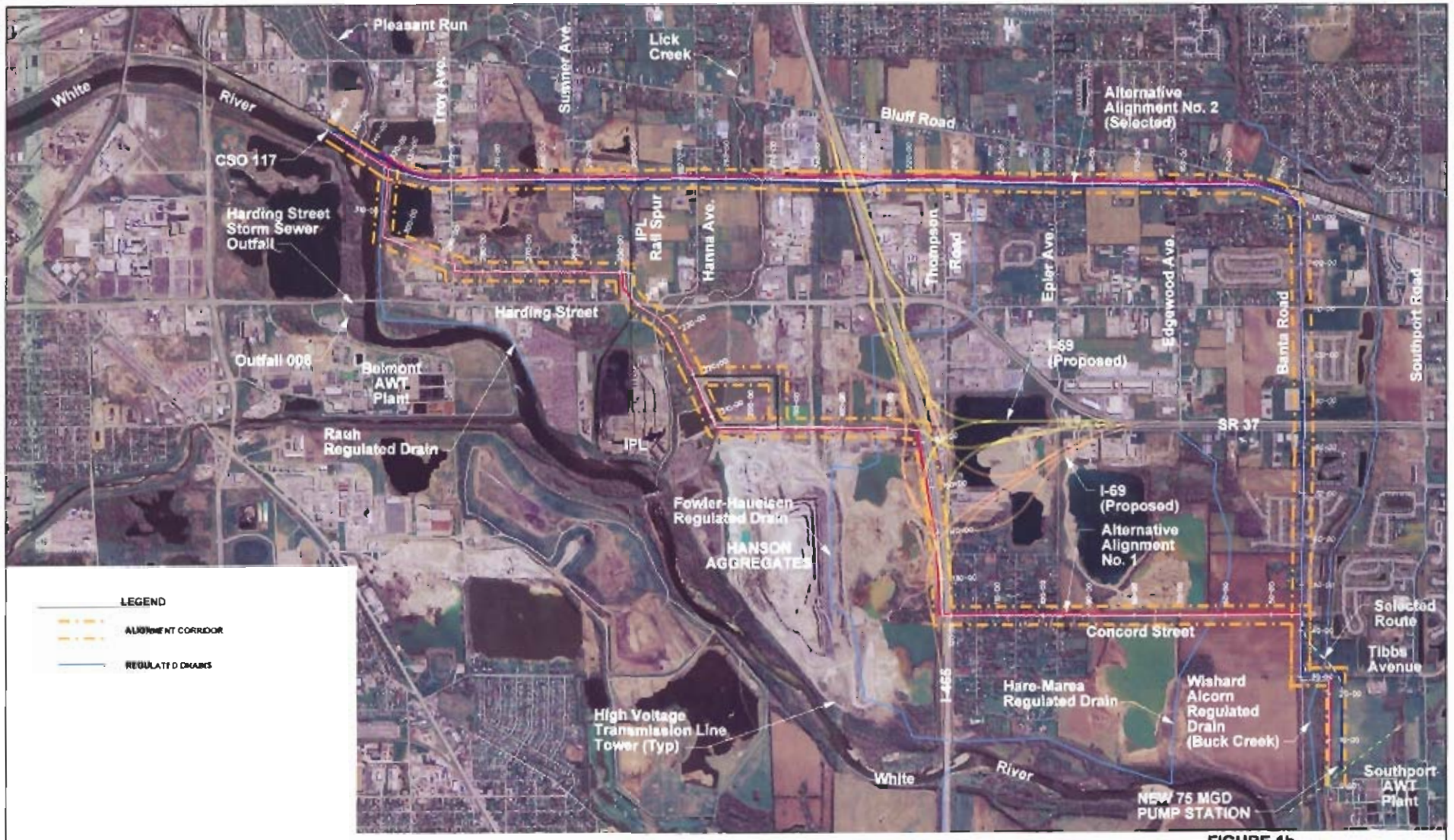

FIGURE 1b
EVALUATED ALIGNMENTS
CITY OF INDIANAPOLIS
DEPARTMENT OF PUBLIC WORKS
BELMONT / SOUTHPORT AWT
INTERPLANT CONNECTION
PHASE 1 ADVANCED FACILITIES PLANNING
CS-38-002B

EarthTech
A tyco International Ltd. Company

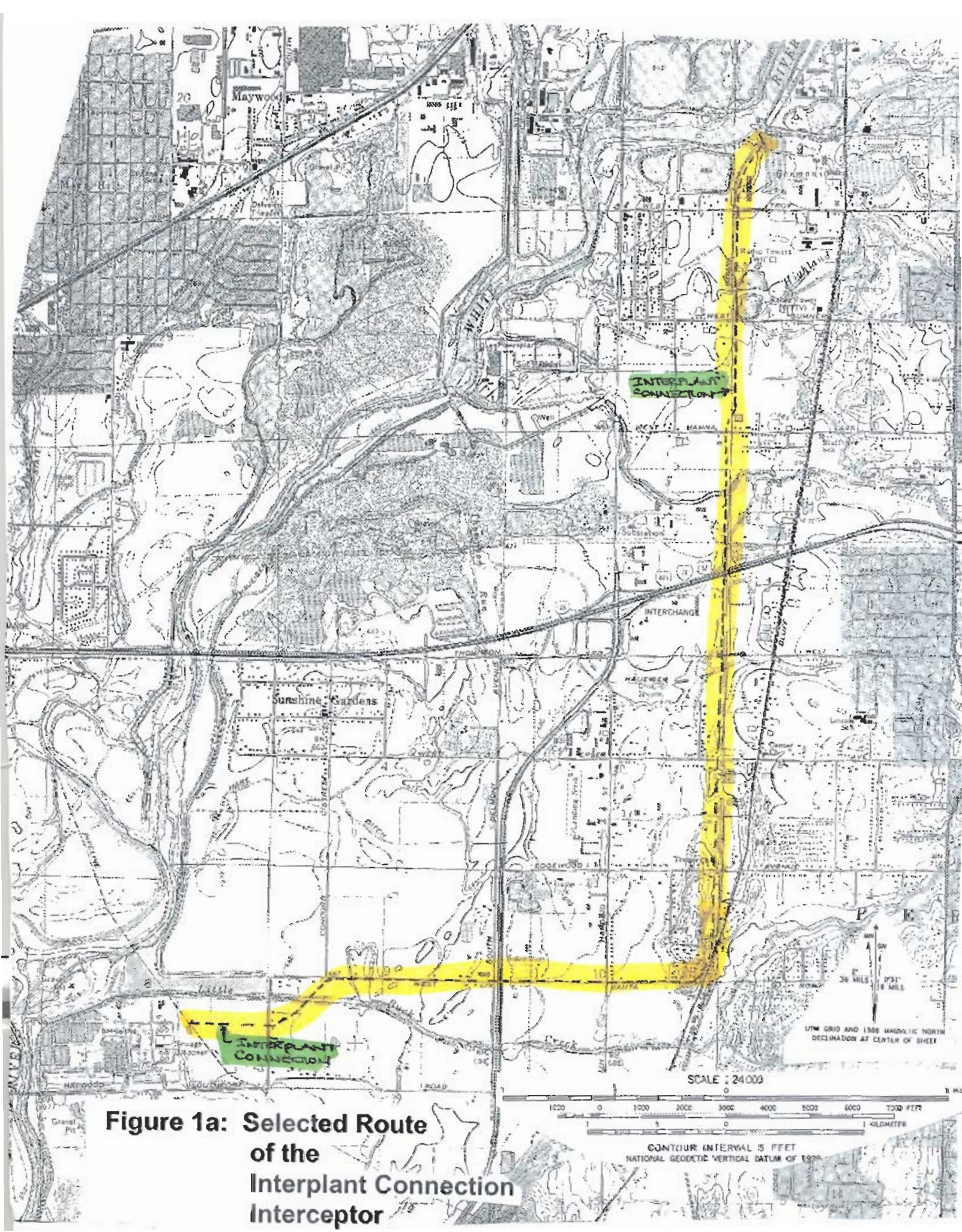

Figure 1a: Selected Route of the Interplant Connection Interceptor